

have a natural talent for or already know how to do well. This strategy means every student is set up to truly excel at something, and to focus attention on the areas in which he or she is most likely to one day become extraordinary.

6:00 p.m. Rai is at home, interacting with a virtual character named Betty. Rai's goal is to teach Betty how to divide mixed numbers. Betty is what Quest calls a "teachable agent": "an assessment tool where kids teach a digital character how to solve a particular problem." In other words, Betty is a software program designed to know *less* than Rai. And it's Rai's job to "teach" the program, by demonstrating solutions and working patiently with Betty until she gets it.

At Quest, these teachable agents replace quizzes, easing the anxiety associated with having to perform under pressure. With a teachable agent, you're not being tested to see if you've really learned something. Instead, you're mentoring someone because you really have learned something, and this is your chance to show it. There's a powerful element of *naches*—vicarious pride—involved here: the more a student learns, the more he or she can pass it on. This is a core dynamic of how learning works in good video games, and at Quest it's perfectly translated into a scalable assessment system.

Secret missions, boss levels, expertise exchanges, special agents, points, and levels instead of letter grades—there's no doubt that Quest to Learn is a different kind of learning environment, about as radically different a mission as any charter school has set out in recent memory. It's an unprecedented infusion of gamefulness into the public school system. And the result is a learning environment where students get to share secret knowledge, turn their intellectual strengths into superpowers, tackle epic challenges, and fail without fear.

Quest to Learn started with a sixth-grade class in the fall of 2009, and it plans to add a new sixth-grade class each year as the previous year graduates upward. The first senior class will graduate from Quest to Learn in 2016, and potentially from college by 2020. I'm willing to bet that that graduating class will be full of creative problem solvers, strong collaborators, and innovative thinkers ready to wholeheartedly tackle formidable challenges in the real world.

SuperBetter—Or How to Turn Recovery into a Multiplayer Experience

Either I'm going to kill myself or I'm going to turn this into a game. After the four most miserable weeks of my life, those seemed like the only two options I had left.

It was the summer of 2009, and I was about halfway through writing this book when I got a concussion. It was a stupid, fluke accident. I had been standing up, and I slammed my head straight into a cabinet door I didn't realize was still open. I was dizzy, saw stars, and felt sick to my stomach. When my husband asked me who the president was, I drew a blank.

Some concussions get better in a few hours, or a few days. Others turn into a much longer postconcussion syndrome. That's what happened to me. I got a headache and a case of vertigo that didn't go away. Any time I turned my head, it felt like I was doing somersaults. And I was in a constant mental fog. I kept forgetting things—people's names, or where I'd put things. If I tried to read or write, after a few minutes my vision blurred out completely. I couldn't think clearly enough to keep up my end of interesting conversations. Even just being around other people, or out in public spaces, seemed to make it worse. At the time, I scribbled these notes: "Everything is hard. The iron fist pushes against my thoughts. My whole brain feels vacuum pressurized. If I can't think, who am I?"

After five days of these symptoms and after a round of neurological tests that all proved normal, my doctor told me I would be fine—but it would probably take an entire month before I really felt like myself again. In the meantime, no reading, no writing, no working, and no running, unless I was completely symptom-free. I had to avoid anything that made my head hurt or made the fog worse. (Sadly, I quickly discovered that computer and video games were out of the question; it was way too much mental stimulation.)

This was difficult news to hear. A month seemed like an impossibly long time not to work and to feel this bad. But at least it gave me a target to shoot

for. I set the date on my calendar: August 15, I would be better. I believed it. I *had* to believe it.

That month came and went, and I'd barely improved at all.

That's when I found out that if you don't recover in a month, the next likely window of recovery is three months.

And if you miss *that* target, the next target is a year.

Two more months living with a vacuum-pressurized brain? Possibly an *entire year*? I felt more hopeless than I could have ever imagined. Rationally, I knew things could be worse—I wasn't dying, after all. But I felt like a shadow of my real self, and I wanted so desperately to resume my normal life.

My doctor had told me that it was normal to feel anxious or depressed after a concussion. But she also said that anxiety and depression exacerbate concussion symptoms and make it much harder for the brain to heal itself. The more depressed or anxious you get, the more concussed you feel and the longer recovery takes. Of course, the worse the symptoms are and the longer they last, the more likely you are to be anxious or depressed. In other words, it's a vicious cycle. And the only way to get better faster is to break the cycle.

I knew I was trapped in that cycle. The only thing I could think of that could possibly make me optimistic enough to break it was a game.

It was a strange idea, but I literally had nothing else to do (except watch television and go on very slow walks). I'd never made a health care game before. But it seemed like the perfect opportunity to try out my alternate reality theories in a new context. I might not be able to read or write very much, but hopefully I could still be creative.

I knew right away it needed to be a multiplayer game. I'd been having a lot of trouble explaining to my closest friends and family how truly anxious I was and how depressed I felt, how hard the recovery process was. I also felt awkward, and embarrassed, asking for help. I needed a way to help myself tell my closest friends and family, "I am having the hardest time of my life, and I really need you to help me." But I also didn't want to be a burden. I wanted to *invite* people to help me.

As with any alternate reality project, I needed to research the reality of the

situation before I could reinvent it. So, for a few days, I spent the limited amount of time I was able to focus—about an hour a day at that point—learning about postconcussion syndrome online. From various medical journals and reports, I pieced together what experts agree are the three most important strategies for getting better and coping more effectively—not only from concussions, but any injury or chronic illness.

First: stay optimistic, set goals, and focus on any positive progress you make. Second: get support from friends and family. And third: learn to read your symptoms like a temperature gauge. How you feel tells you when to do more, do less, or take breaks, so you can gradually work your way up to more demanding activity.⁷

Of course, it immediately occurred to me that these three strategies sound exactly like what you do when you're playing a good multiplayer game. You have clear goals; you track your progress; you tackle increasingly difficult challenges, but only when you're ready for them; and you connect with people you like. The only thing missing from these recovery strategies, really, was the meaning—the exciting story, the heroic purpose, the sense of being part of something bigger.

So that's where SuperBetter comes in.

SuperBetter is a superhero-themed game that turns getting better into multiplayer adventure. It's designed to help anyone recovering from an injury or coping with a chronic condition get better sooner—with more fun, and with less pain and misery, along the way.

The game starts with five missions. You're encouraged to do at least one mission a day, so that you've successfully completed them all in less than a week. Of course, you can move through them even faster if you feel up to it. Here are excerpts from the instructions for each mission, along with an explanation of how I designed it and how I played it.

Mission #1: Create your SuperBetter secret identity. You're the hero of this adventure. And you can be anyone you want, from any story you love. So pick your favorite story—anything from James

Bond to *Gossip Girl*, *Twilight* to *Harry Potter*, *Batman* to *Buffy the Vampire Slayer*. You're about to borrow their superpowers and play the leading role yourself.

I chose *Buffy the Vampire Slayer* as my story line. That made me Jane the Concussion Slayer, and that made my symptoms the vampires, demons, and other forces of darkness I was destined by fate to battle against. The point of this mission is to start seeing yourself as powerful, not powerless. And it underscores the fact that you *are* heroic for choosing to persevere in the face of your injury or illness.

Mission #2: Recruit your allies. Every superhero has an inner circle of friends who help save the day. Pick the people you want to count on most, and invite them to play this game with you. Ask each one to play a specific part: Batman needs a Robin and an Alfred, while James Bond needs an M, a Q, and a Moneypenny. If you're Bella, you'll want at least an Edward, a Jacob, and an Alice. Give each ally a specific mission, related to his or her character. Use your imagination—and feel free to ask for anything you need! When you're saving the world, you can't be shy about asking for help. Be sure to ask at least one ally to give you daily or weekly achievements—these are surprise accomplishments they bestow upon you based on your latest superheroic activities.

As Jane the Concussion Slayer, I recruited my twin sister as my "Watcher" (*Buffy's* mentor in the TV series). Her mission was to call me every single day and ask for a report on my concussion-slaying activities. She should also give me advice and suggest challenges for me to try. Before playing SuperBetter, I hadn't known how to explain to her that I really needed daily contact, and not just to hear from her on the weekends.

I recruited my husband as my "Willow" (*Buffy's* smarty-pants best friend who's also a computer geek). His mission was to do all of the score- and record-keeping for me, read me interesting articles, and in general help me with

anything I wanted to do on the computer without getting a headache. Finally, I recruited my friends Natalie and Rommel, and their miniature dachshund, Maurice, as my "Xander" (he's the comic-relief character). Their mission was to come over once a week and just generally cheer me up.

Why recruit allies? Social psychologists have long observed that one of the hardest things about a chronic injury or illness is asking our friends and family for support. But reaching out and really asking for what we need makes a huge difference. It prevents social isolation, and it gives people who want to help, but don't know how, something specific and actionable to do.

And why have achievements? Every *fiero* moment helps increase optimism and a sense of mastery, which has been proven to speed recovery from everything from knee injuries to cancer. But achievements feel more meaningful when someone else gives them to you—that's why it's important to have a friend or family member bestow them upon you. Kiyash gave me my achievements based on the titles of episodes of *Buffy the Vampire Slayer*. (For example, I unlocked the "Out of Mind, Out of Sight" achievement for ignoring my e-mail for an entire day, and "The Harvest" achievement for eating vegetables for dinner instead of cookies and ice cream, which was one of my favorite postconcussion ways to drown my sorrows. At the time, both of those felt like epic struggles.)

Mission #3: Find the bad guys. To win this battle, you need to know what you're up against. Pay attention all day to anything that makes you feel worse, and put it on your bad-guys list. Some days, you'll be able to battle the bad guys longer—some days not so long. But every time you do battle, you'll want to make a great escape. That means getting away from the bad guy before he knocks you flat. You can always add more bad guys to your list as you discover them—and if you vanquish one forever, you can take it off and claim the permanent victory.

My list of bad guys at the start of the game focused on activities I kept trying to sneak in even though I knew they made me feel worse: reading and re-

sponding to e-mail, running or doing any kind of vigorous exercise, playing Peggle, drinking coffee.

The better you can identify triggers of your symptoms, the more pain and suffering you'll avoid. And making a great escape turns a potential moment of failure—*This is harder than it should be, or I can't do what I want to do*—into a moment of triumph: *I succeeded in recognizing a trigger and vanquished it before it did too much damage*. One of the highlights in my recovery was when I enlisted the entire crew at the Peet's Coffee down the block to help me modulate the amount of caffeine in my morning iced coffee, which I was really reluctant to give up. It was their idea to start me off with 90 percent decaf with just a splash of caffeine so that I could work my way up to half and half, and eventually full caffeine when my brain was finally ready to be stimulated again.

Mission #4: Identify your power-ups. Good thing you've got superpowers. Maybe they're not your typical superpowers—but you definitely have fun things you can do for yourself at a moment's notice to feel better. Make a list, and be ready to call on them whenever the bad guys are getting the better of you. In fact, try to collect as many power-ups as you can every day!

For my concussion recovery, I focused on things I could do with my senses that weren't affected by my head injury. Touch was fine, so I could sit and cuddle with my Shetland sheepdog. Hearing was fine, so I could sit by the window and listen to a podcast. And the biggest superpower I discovered had to do with my sense of smell: I really started to enjoy smelling different perfumes. I would go to a perfume counter, spray samples of a dozen perfumes on cards, then take them home and smell them throughout the rest of the evening, to see how they changed and to learn the different notes. It was one of the most engaging activities I could do without hurting my brain at all. And eventually, once my vertigo was improved, I was able to add to my power-up list long walks up San Francisco hills with my husband.

The power-ups are meant to help you feel capable of having a good day,

no matter what. Having specific positive actions to take increases the odds of doing something that will break the cycle of feeling negative stress or depression.

Mission #5: Create your superhero to-do list. Not every mission is possible, but it doesn't hurt to dream big. Make a list of goals for yourself, ranging from things you're 100 percent positive you can do right now to things you might not have been able to do even in your wildest dreams before you got sick or hurt. Everything on your list should be something that would make you feel awesome and show off your strengths. Every day, try to make progress toward crossing one of these superhero to-dos off your list. Be sure to get your allies' help and advice.

This final idea was inspired by a question I'd found on the website of a New Zealand occupational therapist. "If I can't take your pain away, what else would you like to improve in your life?"⁸ It's one of the abiding features of a good game: the outcome is uncertain. You play in order to discover how well you can do—not because you're guaranteed to win. SuperBetter has to acknowledge the possibility of failure to achieve complete recovery. But it can also make it less scary to fail—because there is an abundance of other goals to pursue and other rewarding activities to undertake along the way. That's why it seemed essential to make part of the game a project to discover as many positive activities that it was still possible to do. It increased my real hopes of enjoying life more, no matter what else happened with the recovery or treatment.

One of my easiest superhero to-dos was baking cookies for people who live in my neighborhood. I liked it so much, I did it three times. A more challenging to-do was finding an opportunity to wear my favorite pair of purple leather stiletto boots, which meant getting up the energy to go out and see people. (I crossed this one off my list by going to see a movie with a big group of friends. I was a bit overdressed, but I felt great anyway.) The biggest superhero to-do on my list was, of course, to finish this book.

Once you have completed the five big missions, your challenge is to stay in constant contact with your allies, collect power-ups by battling the bad guys and making great escapes, and tackle items on your superhero to-do list. You might want to “lock in” your gameplay by keeping a game journal, posting daily videos on YouTube, or using Twitter to announce your achievements.

Near the end of every day, hold a secret meeting with one of your allies. Add up your great escapes, your power-ups, and your superhero points.

Talk to your other allies as often as possible, and tell them what you’ve been doing to get superbetter. Ask them for ideas about new things to add to your to-do list.

Be sure you have at least one ally who is giving you daily achievements. Share these achievements with your friends online, using Twitter or Facebook status updates, to keep them posted on your progress.

So that’s how you play SuperBetter. But does it actually improve the reality of getting better?

The first few days I was playing, I was in a better mood than I had been at any time since I hit my head. I felt like I was finally *doing* something to get better, not just lying around and waiting for my brain to hurry up and heal itself.

My symptoms didn’t improve instantly—but I was so much more motivated to get something positive out of my day, no matter what. Every day, no matter how bad I felt otherwise, I would score at least one great escape, grab at least one power-up, rack up some points, and unlock an achievement. Doing these things didn’t require being cured; it just required making an effort to participate more fully in my own recovery process.

There’s not a whole lot you can prove with a scientific sample of one. I can say only that, for me, the fog of misery lifted first, and then, soon after, the fog of symptoms started to lift as well. Within two weeks of playing Jane the Concussion Slayer, my symptoms were improved by roughly 80 percent, according to the log Kiyash helped me keep of my pain and concentration problems on a ten-point scale, and I was up to working as many as four hours a day. Within a month, I felt almost completely recovered.

I can’t say for sure if I got better any faster than I would have without playing the game—although I suspect it helped a great deal. What I can say for sure is that I suffered a great deal less during the recovery as a direct result of the game. I was miserable one day, and the next day I wasn’t; and I was never that miserable again as long as I was playing the game. When my allies joined the game, I finally felt like they really understood what I was going through, and I never felt quite so lost in the fog again.

After declaring my victory over the concussion in a Twitter post, I received dozens of requests to post all the rules and missions, so that other people could game their own injuries and illnesses—for everything from chronic back pain and social anxiety to lung disorders, migraines, the side effects of quitting smoking, newly diagnosed diabetes, chemotherapy, and even mononucleosis.

I published the rule set on my blog, and I gave it the more general name SuperBetter (after all, most people probably don’t dream of being like Buffy the Vampire Slayer).⁹ I suggested that people use the hashtag “#SuperBetter” for their own videos, blog posts, and Twitter updates, in case they wanted to find each other online. (A *hashtag* is a way to easily add context to your online content, and to find other people talking about the same topic.) And that was it. I didn’t build a Web application, or develop an automated scoring system, or even set up a social network for playing the game. A game doesn’t have to be a computer program. It can simply be like chess or hide-and-seek: a set of rules that one player can pass on to another.

An alternate reality game can be as simple as a good idea, a fresh way of looking at a problem. SuperBetter, of course, isn’t meant to replace conventional medical advice or treatment. It’s meant to augment good advice, and to help patients take a more active role in their own recovery.

When you’re sick or in pain, getting better is all you want. But the longer it takes, the harder it gets. And when the tough reality we have to face is that getting better won’t be easy, a good game can better prepare us to deal with that reality. In an alternate reality linked to our favorite superhero mythology, we’re more likely to stay optimistic, because we’ll set more reasonable goals

and keep better track of our progress. We'll feel successful even when we're struggling, because our friends and family will define *fiero* moments for us every day. We'll build a stronger social support system, because it's easier to ask someone to play a game than it is to ask for help. And we'll hopefully find real meaning and develop real character in our epic efforts to overcome what may be the toughest challenge we've ever had to face. And *that's* how we get superbetter, thanks to a good game.

THE THREE GAMES discussed in this chapter represent three of the main approaches to developing an alternate reality and solving a quality-of-life problem.

Chore Wars is an example of a **life-management ARG**—a software program or service that helps you manage your real life like a game.

Quest to Learn is an example of an **organizational ARG**. It uses game design as a guiding philosophy for creating new institutions and inventing new organizational practices.

And SuperBetter is a **concept ARG**. It uses social media and networking tools to virally spread new game ideas, missions, and rule sets, which players can repurpose and adapt for their own lives as they see fit.

These three methods aren't the only ways to create an alternate reality. In later chapters in this book, you'll also read about **live event ARGs**, which gather players at physical locations for a game that takes only an hour or a day to play, and **narrative ARGs**, which use multimedia storytelling—video, text, photographs, audio, and even graphic novels—to weave real-world game missions into a compelling fiction that plays out over weeks, months, or even years.

Of course, by the time you read this book, dozens—probably hundreds—of new alternate reality games will no doubt be widely playable. This movement

is just getting started. When we imagine how the ARG movement might unfold, we can—as always—look for guidance from the past.

In the early 1970s, just before the computer and video game revolution, another game revolution took place, with significantly less fanfare but a rather important and lasting legacy. It was called the New Games movement, and its goal was to reinvent sports to be more cooperative, more social, and more inclusive.

The New Games philosophy was simple, composed of two parts. First, no one should ever have to warm the bench because they're not good enough to play. And second, competitive gameplay shouldn't be about winning. It should be about playing harder and longer than the other team, in order to have more fun.

The founders of the movement, a group of San Francisco-based counterculturalists, invented dozens of new sports, all sillier and more spectacular than traditional athletic activities. The most well known were the "earth ball" games (played with a ball six feet in diameter, so that it takes multiple people to move the ball together) and parachute games (in which twenty to fifty people stand around the rim of a piece of parachute material and flap and billow it together, working to create various shapes and ripples). They held large New Games festivals in the Bay Area and eventually trained tens of thousands of schools and parks and recreation departments across the country, so that they could include New Games in their physical education and public recreation programs.

Many of today's leading game developers grew up playing New Games at school and local parks—and it's not hard to see the influence of New Games on multiplayer and massively multiplayer game designers today. From the cooperative missions in MMOs to the 256-player combat environments on consoles, video gameplay today often looks a lot like a New Game, set in a virtual world. In fact, New Games theory has come up at every single Game Developers Conference I've attended over the last decade—which is how I know that many game designers have managed to acquire for themselves a copy of the long out-of-print and little-known *New Games Book*, published in 1976.